

PATENT SPECIFICATION

1,155,750



DRAWINGS ATTACHED

1,155,750

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Int. Cl.:—F 16 k 15/14

COMPLETE SPECIFICATION

Damper Valve

We, MOULTON DEVELOPMENTS LIMITED, a Body Corporate duly organised under the Laws of Great Britain, of The Hall, Bradford-on-Avon, Wiltshire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to valves for damping the flow of hydraulic fluid in a pipeline.

According to the invention, there is provided a damper valve consisting of, in combination, a composite housing defining a valve chamber, a circular disc dividing said chamber into two parts, two connector nipples, each defining a port, the ports leading one into each of the respective parts of said valve chamber, said disc having a central hole and a plurality of peripheral holes spaced radially about said central hole, there being mounted inside said composite housing an annular resilient body having a continuous annular flap lying against one side of said disc and obturating the said peripheral holes thereof.

When the valve is connected in a pipeline, with two pipe elements connected to the nipples the hydraulic fluid will be able to pass through the central hole in the disc from one pipe to the other in either direction of flow, but will only be able to pass through the peripheral holes in one direction of flow, passage in the opposite direction being prevented by the resilient flap obturating the peripheral holes.

One embodiment of the invention will be described by way of example in the accompanying drawings, in which:

Figure 1 is a transverse cross-sectional view through the damper valve, while

Figure 2 is an end view of the port plate.

In the drawings, 1 represents a valve chamber which is defined by housing parts 2 and 3, the part 3 being screwed into the part

2. The housing part 3 has a nipple 5 defining a bore 6, while the housing part 2 has a nipple 7 defining a bore 8. The nipples 5 and 7 are adapted to be connected to pipe elements so that the valve is incorporated in an hydraulic pipeline.

9 represents a circular disc constituting a port plate, which is clamped between the housing members 2 and 3 and divides the chamber 1 into two parts. The bore 6 leads into one part and the bore 8 leads into the opposite part of the chamber 1. The port plate 9 has a central hole 9a and peripheral holes 9b spaced radially about said central hole 9a. An annular resilient body 10 is clamped by the composite housing and has an inwardly projecting continuous annular flap 10a lying against one side of the disc 9 and covering the peripheral holes 9b thereof.

When the valve is connected in an hydraulic pipeline, fluid flow in both directions is permitted through the central hole 9a, but in respect of the peripheral holes 9b fluid flow can only take place in the direction from the pipe 8 to the pipe 6 with the lip 10a of the annular resilient member being resiliently deflected. Flow in the reverse direction is prevented since the flap 10a obturates the holes 9b.

This valve is eminently suitable for incorporation in an hydraulic conduit pipe providing intercommunication between the respective displacer units associated with the front and rear wheels of a vehicle, on one side, in an hydraulic suspension system of the kind described in our prior Specifications Nos. 813,259 and 870,489. In such a suspension system, the valve will be arranged with the nipple 5 connected to the rear displacer and the nipple 7 connected to the front displacer. In such an arrangement therefore, flow from front to rear will be much freer than flow in the reverse direction. Such an arrangement is particularly suitable when employing displacer

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[Price 4s. 6d.]

units of the kind described in our co-pending Application No. 12064/66 (Serial No. 1,142,656).

WHAT WE CLAIM IS:—

- 5 1. A damper valve consisting of, in combination, a composite housing defining a valve chamber, a circular disc dividing said chamber into two parts, two connector nipples, each defining a port, the ports leading one into each 10 of the respective parts of said valve chamber, said disc having a central hole and a plurality of peripheral holes spaced radially about said central hole, there being mounted inside said

composite housing an annular resilient body having a continuous annular flap lying against one side of said disc and obturating the said peripheral holes thereof.

15 2. A damper valve constructed and adapted to operate substantially as hereinbefore described with reference to the accompanying drawings.

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1155750 COMPLETE SPECIFICATION

1 SHEET *This drawing is a reproduction of
the Original on a reduced scale*

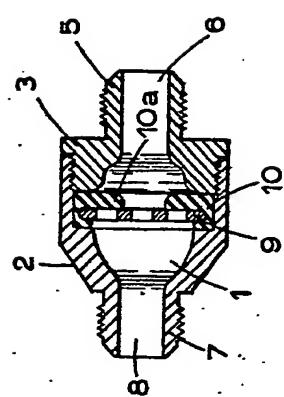


FIG. 1.

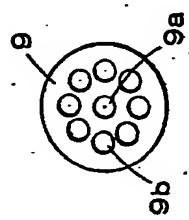


FIG. 2.